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| 10/057,903 | 01/29/2002 | Lawrence Wilcock | 1509-260 | 3686 |

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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

MICHALSKI, JUSTIN I

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
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2644

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,903

Applicant(s)

WILCOCK, LAWRENCE

Examiner

Justin Michalski

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 9, 10, 12-14, 16, 19, 20, 22-24, 26, 29, 30 is/are rejected.
- 7) ☒ Claim(s) 4, 6-8, 11, 15, 17, 18, 21, 25, 27, 28 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 October 2004 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 5, 9, 12-14, 16, 19, 22-24, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Slezak (US Patent 6,647,119).

Regarding Claim 1, Slezak discloses an audio user-interfacing method in which items are represented in an audio field by corresponding synthesized sound sources (tones or chimes; Col. 7, lines 40-41) from where sounds related to the items appear to emanate (Slezak discloses movement along path 176; Col. 7, lines 41-44), the method

including the steps of: (a) allocating the sound sources to groups (174 and 178; Col. 7, lines 37-61) such that each group comprises multiple sound sources (i.e. tones and chimes); and automatically and cyclically un-muting each group of sound sources in turn for a limited period with the groups other than the current cyclically un-muted group being at least partially muted (Slezak discloses periodic, i.e. cyclically, audible tones; Col. 7, lines 37-41).

Regarding Claim 2, Slezak further discloses the sound sources are allocated to the groups according to at least one characteristic of their respective associated items (i.e. vertical and horizontal indicator; Col. 7, lines 37-61).

Regarding Claim 3, Slezak further discloses the sound sources are allocated to the groups according to their positions in the audio field (i.e. vertical and horizontal indicator; Col. 7, lines 37-61).

Regarding Claim 5, Slezak further discloses each sound source has its own respective group (i.e. vertical and horizontal indicator; Col. 7, lines 37-61).

Regarding Claim 9, Slezak further discloses each group is associated with a respective audio-field reference relative to which the sound sources of the group are positioned (Fig. 5, reference 168), independently moving the audio-field references relative to a presentation reference which is determined by a mounting configuration of audio output devices used to synthesize said sound sources (Col. 7, lines 37-61).

Regarding Claim 12, Slezak discloses an apparatus for providing an audio user interface in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate, the

apparatus comprising: storage means for storing data concerning the sound sources (i.e. memory devices, Col. 4, lines 40-47), this data including grouping data associating sound sources into groups each with multiple sound sources (group 174 and 178 with audible tones and chimes; Col. 7, lines 37-61); rendering-position determining means for determining the audibility of each sound source based on its group, the audibility-determining means being arranged to automatically and cyclically un-muting each group of sound sources in turn for a limited period with the groups other than the current cyclically un-muted group being at least partially muted (providing periodic tones, i.e. cyclic, Col. 7, lines 37-41); and rendering means, including audio output devices, for generating an audio field in which said sound sources are synthesized at their associated rendering positions and with audibility as determined by said audibility-determining means (speakers 55A through 55D, Col. 5, lines 12-15).

Regarding Claim 13, Slezak further discloses the sound sources are allocated to the groups according to at least one characteristic of their respective associated items (i.e. vertical and horizontal indicator; Col. 7, lines 37-61).

Regarding Claim 14, Slezak further discloses the sound sources are allocated to the groups according to their positions in the audio field (i.e. vertical and horizontal indicator; Col. 7, lines 37-61).

Regarding Claim 16, Slezak further discloses each sound source has its own respective group (i.e. vertical and horizontal indicator; Col. 7, lines 37-61).

Regarding Claim 19, Slezak further discloses rendering-position means comprises: means for setting the location of each of said sound sources (174 and 178)

relative to and audio-field reference (168); means for controlling an offset between the audio field reference and a presentation reference, being determined by a mounting configuration of the audio output devices (scroll bar 166); and means for deriving the rendering position of each sound source based on the location of the sound source in the audio field and said offset (speakers 55A through 55D, sound card 57 and amplifier 74, Col. 5, lines 12-15).

Regarding Claim 22, Slezak discloses an apparatus for providing an audio user interface in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate, the apparatus comprising: a data store for storing data concerning the sound sources (i.e. memory devices, Col. 4, lines 40-47), this data including grouping data associating sound sources in groups of multiple sound sources (group 174 and 178 with multiple audible tones and chimes; Col. 7, lines 37-61); a rendering-position determining arrangement arranged to determine, for each said sound source, and associated rendering position at which the sound source is to be synthesized to sound in the audio field; an audibility-determining arrangement arranged to determine the audibility of each sound source based on its group, the audibility-determining arrangement being further arranged to automatically and cyclically un-mute each group of sound sources in turn for a limited period with the groups other than the current cyclically un-muted group being at least partially muted (providing periodic tones, i.e. cyclic, Col. 7, lines 37-41); and a rendering subsystem, including audio output devices, arranged to generate an audio field in which said sound sources are synthesized at their associated rendering

positions and with audibility as determined by said audibility-determining arrangement (speakers 55A through 55D, Col. 5, lines 12-15).

Regarding Claim 23, Slezak further discloses the sound sources are allocated to the groups according to at least one characteristic of their respective associated items (i.e. vertical and horizontal indicator; Col. 7, lines 37-61).

Regarding Claim 24, Slezak further discloses the sound sources are allocated to the groups according to their positions in the audio field (i.e. vertical and horizontal indicator; Col. 7, lines 37-61).

Regarding Claim 26, Slezak further discloses each sound source has its own respective group (i.e. vertical and horizontal indicator; Col. 7, lines 37-61).

Regarding Claim 29, Slezak further discloses a setting arrangement for setting the location of each said sound source (174 and 178) relative to an audio-field reference (168); a control arrangement for controlling an offset between the audio field reference and a presentation reference (scroll bar 166), the presentation reference being determined by a mounting configuration of the audio output devices (speakers 55, Col. 54, lines 12-15); and a deriving arrangement arranged to derive the rendering position of each sound source based on the location of the sound source in the audio field and said offset (sound card 57 and amplifier 76, Col. 5, lines 2-8).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10, 20, and 30 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Slezak as applied to claim 1, 19, and 29 in view of applicants disclosure. Slezak discloses a method and apparatus as stated above but does not disclose stabilizing the audio field relative to a user's head, user's body, vehicle, or the world. The applicant discloses on page 3, lines 28-31 of the specification that "loudspeaker-based systems are inherently 'world stabilized' with the generated audio field remaining fixed as the user rotates their head, each sound source appearing to keep its absolute position when the hearer's head is turned". Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a world-stabilized audio field since loudspeaker-based systems are inherently "world-stabilized" as disclosed by the applicant.

Allowable Subject Matter

6. Claims 4, 6-8, 11, 15, 17, 18, 21, 25, 27, 28, and 31 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Michalski whose telephone number is (703)305-5598. The examiner can normally be reached on 8 Hours, 5 day/week.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Isen can be reached on (703)305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JIM

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XU MEI
PRIMARY EXAMINER